

1 ~~1. A gel composition, comprising:~~

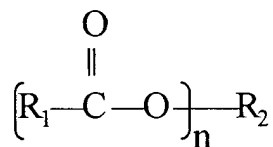
2 ~~an ester compound, and~~

3 ~~a polymer compound selected from the group consisting of triblock copolymers, star~~
4 ~~polymers, radial polymers, multi-block copolymers, and combinations thereof.~~

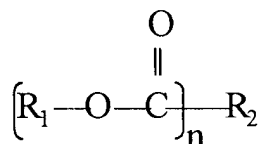
1 ~~2. The gel composition of claim 1, further comprising a diblock copolymer,~~

2 ~~wherein the gel composition is substantially free of mineral oils.~~

1 [[3. The gel composition of claim 1, wherein the ester is represented by the following formulas:



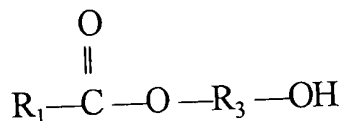
and



wherein n=1, 2, 3, and 4, and R₁ includes hydrogen, hydrocarbyl, phenyl, methoxyphenyl, alkylphenyl, substituted alkyl, and substituted phenyl;

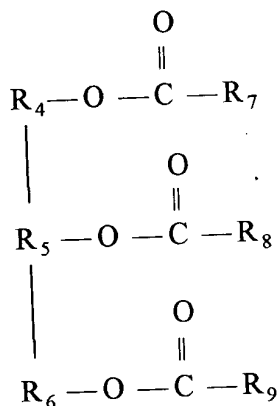
R₂ includes hydrogen, hydrocarbyl, phenyl, methoxyphenyl, alkylphenyl, substituted alkyl, substituted phenyl, alkylene, phenylene, substituted alkylene, and substituted phenylene.]]

1 [[4. The gel composition of claim 1, wherein the ester is represented by the following formula:



2
3
4
5 wherein R₁ includes hydrogen, hydrocarbyl, phenyl, methoxyphenyl, alkylphenyl, substituted
6 alkyl, and substituted phenyl, and R₃ includes alkylene, phenylene, substituted alkylene, or substituted
7 phenylene.]]

1 [[5. The gel composition of claim 1, wherein the ester is represented by the following formula:



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11 wherein R₄, R₅, and R₆ individually include alkylene, phenylene, substituted alkylene, or
12 substituted phenylene, and R₇, R₈ and R₉ individually include hydrogen, hydrocarbyl, phenyl,
13 methoxyphenyl, alkylphenyl, substituted alkyl, and substituted phenyl.]]

1 ~~6. The gel composition of claim 1, wherein the ester is selected from the group consisting of~~
2 ~~isopropyl myristate, isopropyl palmitate, C₁₂-C₁₅ alkyl benzoate, octyl methoxycinnamate, octyl~~
3 ~~dodecyl neopentanoate, propylene glycol dicaprylate/caprate, jojoba oil, and isostearyl neopentanoate.~~

1 ~~7. The gel composition of claim 1, wherein the polymer compound is present in the amount of~~
2 ~~about 1% to about 40 % by weight.~~

1 ~~8. The gel composition of claim 2, wherein the diblock copolymer is selected from the group~~
2 ~~consisting of styrene-ethylene/propylene copolymers, styrene-ethylene/butadiene copolymers, styrene-~~
3 ~~isoprene copolymers, and styrene-butadiene copolymers.~~

1 ~~9. The gel composition of claim 1, wherein the triblock copolymer is selected from the group~~
2 ~~consisting of styrene-ethylene/propylene-styrene copolymers, styrene-ethylene/butadiene-styrene~~
3 ~~copolymers, styrene-isoprene-styrene copolymers, and styrene-butadiene-styrene copolymers.~~

1 ~~10. The gel composition of claim 2, wherein the diblock copolymer is hydrogenated.~~

1 ~~11. The gel composition of claim 1, wherein the triblock copolymer is hydrogenated.~~

1 ~~12. The gel composition of claim 1, wherein the triblock copolymer includes a grafted functional~~
2 ~~group.~~

1 ~~13. The gel composition of claim 1, further comprising a suspended component.~~

1 ~~14. The gel composition of claim 13, further comprising a diblock copolymer.~~

1 ~~15. The gel composition of claim 13, wherein the suspended component is a solid selected from~~
2 ~~the group consisting of organic materials, inorganic materials, organometallic materials,~~
3 ~~phosphorescent materials, and fluorescent materials.~~

1 ~~16. The gel composition of claim 13, wherein the suspended component is a solid selected from~~
2 ~~the group consisting of zinc oxide, coated zinc oxide, surface-treated zinc oxide, titanium dioxide,~~
3 ~~surface-treated titanium dioxide, graphite, explosives, air-sensitive chemicals, moisture-sensitive~~
4 ~~chemicals, boron nitride, iron oxides, talc, mica, plastics, polymers, silica, silicon dioxide, aluminum~~
5 ~~oxide, metal particles, antibacterials, antibiotics, anesthetics, glass, clays, gums, capsules containing~~
6 ~~an active ingredient, starch, modified starch, other encapsulated materials, and combinations thereof.~~

1 ~~17. The gel composition of claim 13, wherein the suspended component is a liquid selected from~~
2 ~~the group consisting of water, water containing a water-soluble material, glycerin, propylene glycol,~~
3 ~~butylene glycol, alcohols, acids, surfactants, emulsifiers, polyglycerols, ethers, polar esters, fluorinated~~
4 ~~compounds, perfluoropolyethers, silicones, silicon-containing compounds, and combinations thereof.~~

1 ~~18. The gel composition of claim 1, further comprising an active ingredient.~~

1 ~~19. The gel composition of claim 18, wherein the active ingredient is selected from the group~~
2 ~~consisting of sunscreens, antiperspirants, deodorants, perfumes, cosmetics, emollients, insect~~
3 ~~repellants, pesticides, herbicides, fungicides, plasticizers, insecticides, and medicaments.~~

1 ~~20. A gel composition, comprising:~~
2 ~~—— a compound selected from the group consisting of alcohols, ethers, naturally occurring fats~~
3 ~~and oils, and combinations thereof, and~~
4 ~~—— a polymer compound selected from the group consisting of diblock copolymers, triblock~~
5 ~~copolymers, star polymers, radial polymers, multi-block copolymers, and combinations thereof.~~

1 ~~21. The gel composition of claim 20, wherein the alcohols include octyl dodecanol or isostearyl~~
2 ~~alcohol.~~

1 ~~22. The gel composition of claim 20, wherein the ethers include dicarylyl ether.~~

1 ~~23. The gel composition of claim 20, wherein the naturally occurring fats and oils include linseed~~
2 ~~oil, soybean oil, sunflower seed oil, corn oil, sesame oil, olive oil, castor oil, coconut oil, palm oil, and~~
3 ~~peanut oil.~~

1 ~~24. A gel composition, comprising:~~
2 ~~—— a compound selected from the group consisting of esters, alcohols, ethers, naturally occurring~~
3 ~~fats and oils, and combinations thereof; and~~
4 ~~—— a polymer compound selected from the group consisting of alkyl galactomannan,~~
5 ~~polybutadiene, and combinations thereof.~~

1 ~~25. A method of making a gel composition, comprising:~~
2 ~~—— mixing an ester compound with a polymer compound selected from the group consisting of~~
3 ~~triblock copolymers, star polymers, radial polymers, multi-block copolymers, and combinations~~
4 ~~thereof;~~
5 ~~—— heating the mixture;~~
6 ~~—— agitating the mixture until the mixture becomes homogeneous; and~~
7 ~~—— cooling the mixture.~~

1 ~~26. A method of making a gel composition, comprising:~~
2 ~~—— mixing an alcohol, an ether or a naturally occurring fat or oil with a polymer compound~~
3 ~~selected from the group consisting of diblock copolymers, triblock copolymers, star polymers, radial~~
4 ~~polymers, multi-block copolymers, and combinations thereof;~~
5 ~~—— heating the mixture;~~
6 ~~—— agitating the mixture until the mixture becomes homogeneous; and~~
7 ~~—— cooling the mixture.~~

1 ~~27. A method of making a gel composition, comprising:~~

1 ~~mixing an ester, an alcohol, an ether or a naturally occurring fat or oil with alkyl~~
2 ~~galactomannan or polybutadiene;~~
3 ~~heating the mixture;~~
4 ~~agitating the mixture until the mixture becomes homogeneous; and~~
5 ~~cooling the mixture.~~

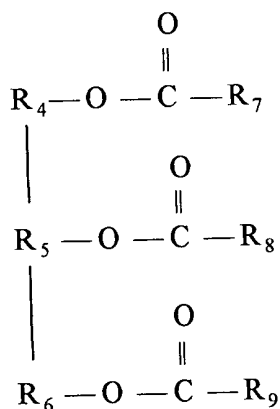
1 28. (New) A gel composition, comprising:

2 an ester compound; and

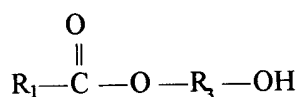
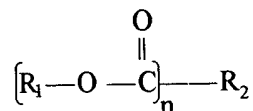
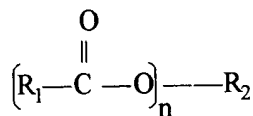
3 a polymer compound having at least one rigid block selected from the group consisting of
4 polystyrene, polyethylene, polyvinylchloride, and phenolics and one elastic block selected from the
5 group consisting of ethylene/butadiene copolymers, polyisoprene, polybutadiene, ethylene/propylene
6 copolymers, ethylene-propylene/diene copolymers, wherein the polymer is selected from the group
7 consisting of triblock copolymers, star polymers, radial polymers, multi-block copolymers, and
8 combinations thereof,

9 wherein the gel composition is substantially free of mineral oils;

10 wherein the ester is represented by one of the following formulas:



20 or



wherein n=1, 2, 3, and 4, and

R₁ includes hydrogen, hydrocarbyl, phenyl, methoxyphenyl, alkylphenyl, substituted alkyl, and substituted phenyl; R₂ includes hydrogen, hydrocarbyl, phenyl, methoxyphenyl, alkylphenyl, substituted alkyl, substituted phenyl, alkylene, phenylene, substituted alkylene, and substituted phenylene, and R₃ includes alkylene, phenylene, substituted alkylene, or substituted phenylene, and

wherein R₄, R₅, and R₆ individually include alkylene, phenylene, substituted alkylene, or substituted phenylene, and R₇, R₈ and R₉ individually include hydrogen, hydrocarbyl, phenyl, methoxyphenyl, alkylphenyl, substituted alkyl, and substituted phenyl.

29. (New) The gel composition of claim 28, further comprising a diblock copolymer,
wherein the gel composition is substantially free of mineral oils.

30. (New) The gel composition of claim 28, wherein the ester is selected from the group consisting of isopropyl myristate, isopropyl palmitate, C₁₂-C₁₅ alkyl benzoate, octyl methoxycinnamate, octyl dodecyl neopentanoate, propylene glycol dicaprylate/caprate, jojoba oil, and isostearyl neopentanoate.

31. (New) The gel composition of claim 28, wherein the polymer compound is present in the amount of about 1% to about 40 % by weight.

1 32. (New) The gel composition of claim 29, wherein the diblock copolymer is selected from the
2 group consisting of styrene-ethylene/propylene copolymers, styrene-ethylene/butadiene copolymers,
3 styrene-isoprene copolymers, and styrene-butadiene copolymers.

1 33. (New) The gel composition of claim 28, wherein the triblock copolymer is selected from the
2 group consisting of styrene-ethylene/propylene-styrene copolymers,
3 styrene-ethylene/butadiene-styrene copolymers, styrene-isoprene-styrene copolymers, and
4 styrene-butadiene-styrene copolymers.

1 34. (New) The gel composition of claim 29, wherein the diblock copolymer is hydrogenated.

1 35. (New) The gel composition of claim 28, wherein the triblock copolymer is hydrogenated.

1 36. (New) The gel composition of claim 28, wherein the triblock copolymer includes a grafted
2 functional group.

1 37. (New) The gel composition of claim 28, further comprising a suspended component.

1 38. (New) The gel composition of claim 37, further comprising a diblock copolymer.

1 39. (New) The gel composition of claim 37, wherein the suspended component is a solid selected
2 from the group consisting of organic materials, inorganic materials, organometallic materials,
3 phosphorescent materials, and fluorescent materials.

1 40. (New) The gel composition of claim 37, wherein the suspended component is a solid selected
2 from the group consisting of zinc oxide, coated zinc oxide, surface-treated zinc oxide, titanium
3 dioxide, surface-treated titanium dioxide, graphite, explosives, air-sensitive chemicals,

1 moisture-sensitive chemicals, boron nitride, iron oxides, talc, mica, plastics, polymers, silica, silicon
2 dioxide, aluminum oxide, metal particles, antibacterials, antibiotics, anesthetics, glass, clays, gums,
3 capsules containing an active ingredient, starch, modified starch, other encapsulated materials, and
4 combinations thereof.

1 41. (New) The gel composition of claim 37, wherein the suspended component is a liquid selected
2 from the group consisting of water, water containing a water-soluble material, glycerin, propylene
3 glycol, butylene glycol, alcohols, acids, surfactants, emulsifiers, polyglycerols, ethers, polar esters,
4 fluorinated compounds, perfluoropolyethers, silicones, silicon-containing compounds, and
5 combinations thereof.

1 42. (New) The gel composition of claim 28, further comprising an active ingredient.

1 43. (New) The gel composition of claim 42, wherein the active ingredient is selected from the
2 group consisting of sunscreens, antiperspirants, deodorants, perfumes, cosmetics, emollients, insect
3 repellants, pesticides, herbicides, fungicides, plasticizers, insecticides, and medicaments.

1 44. (New) A gel composition, comprising:

2 a compound selected from the group consisting of alcohols, ethers, naturally occurring fats
3 and oils, and combinations thereof, and

4 a polymer compound selected from the group consisting of diblock copolymers, triblock
5 copolymers, star polymers, radial polymers, multi-block copolymers, and combinations thereof,

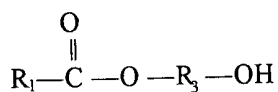
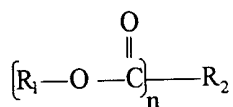
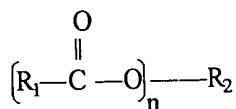
6 wherein the polymer compound has at least one rigid block selected from the group consisting
7 of polystyrene, polyethylene, polyvinylchloride, and phenolics and one elastic block selected from the
8 group consisting of ethylene/butadiene copolymers, polyisoprene, polybutadiene, ethylene/propylene
9 copolymers, ethylene-propylene/diene copolymers.

1 45. (New) The gel composition of claim 44, wherein the alcohols include octyl dodecanol or
2 isostearyl alcohol.

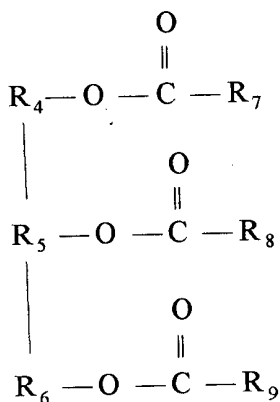
1 46. (New) The gel composition of claim 44, wherein the ethers include dicarylyl ether.

1 47. (New) A gel composition, comprising:
2 a compound selected from the group consisting of esters, alcohols, ethers, naturally occurring
3 fats and oils, and combinations thereof; and
4 a polymer compound selected from the group consisting of alkyl galactomannan,
5 polybutadiene, and combinations thereof.

1 48. (New) A method of making a gel composition, comprising:
2 mixing an ester compound with a polymer compound having at least one rigid block selected
3 from the group consisting of polystyrene, polyethylene, polyvinylchloride, and phenolics and one
4 elastic block selected from the group consisting of ethylene/butadiene copolymers, polyisoprene,
5 polybutadiene, ethylene/propylene copolymers, ethylene-propylene/diene copolymers, wherein the
6 polymer is selected from the group consisting of triblock copolymers, star polymers, radial polymers,
7 multi-block copolymers, and combinations thereof,
8 heating the mixture;
9 agitating the mixture until the mixture becomes homogeneous; and
10 cooling the mixture;
11 wherein the gel composition is substantially free of mineral oils;
12 wherein the ester is represented by one of the following formulas:



or



wherein n=1, 2, 3, and 4, and

R₁ includes hydrogen, hydrocarbyl, phenyl, methoxyphenyl, alkylphenyl, substituted alkyl, and substituted phenyl; R₂ includes hydrogen, hydrocarbyl, phenyl, methoxyphenyl, alkylphenyl, substituted alkyl, substituted phenyl, alkylene, phenylene, substituted alkylene, and substituted phenylene, and R₃ includes alkylene, phenylene, substituted alkylene, or substituted phenylene, and

wherein R₄, R₅, and R₆ individually include alkylene, phenylene, substituted alkylene, or substituted phenylene, and R₇, R₈ and R₉ individually include hydrogen, hydrocarbyl, phenyl, methoxyphenyl, alkylphenyl, substituted alkyl, and substituted phenyl.

1 49. (New) A method of making a gel composition, comprising:

2 mixing an alcohol, an ether or a naturally occurring fat or oil or combinations thereof with a
3 polymer compound selected from the group consisting of diblock copolymers, triblock copolymers,
4 star polymers, radial polymers, multi-block copolymers, and combinations thereof, wherein the
5 polymer compound has at least one rigid block selected from the group consisting of polystyrene,
6 polyethylene, polyvinylchloride, and phenolics and one elastic block selected from the group
7 consisting of ethylene/butadiene copolymers, polyisoprene, polybutadiene, ethylene/propylene
8 copolymers, ethylene-propylene/diene copolymers

9 heating the mixture;

10 agitating the mixture until the mixture becomes homogeneous; and

11 cooling the mixture.

1 50. (New) A method of making a gel composition, comprising:

2 mixing an ester, an alcohol, an ether or a naturally occurring fat or oil with alkyl
3 galactomannan or polybutadiene,

4 heating the mixture;

5 agitating the mixture until the mixture becomes homogeneous; and

cooling the mixture.